

Claims 1-8 remain pending in this application, with Claim 1 being independent.

Claims 1, 7, and 8 were rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 6,799,822 (Cleland et al.) in view of U.S. Patent No. 7,004,569 (Mochizuki et al.). Claim 2 was rejected under § 103 over Cleland et al. and Mochizuki et al. and further in view of U.S. Patent No. 6,755,509 (Silverbrook et al.). Claim 3 was rejected under § 103 over Cleland et al. and Mochizuki et al. and further in view of U.S. Patent No. 5,121,143 (Hayamizu). Claim 4 was rejected under § 103 over Cleland et al., Mochizuki et al., and Hayamizu and further in view of U.S. Patent No. 6,789,877 (Murakami et al.). Claim 5 was rejected under § 103 over Cleland et al. and Mochizuki et al. and further in view of U.S. Patent No. 6,394,588 (Moon et al.). Claim 6 was rejected under § 103 over Cleland et al. and Mochizuki et al. and further in view of U.S. Patent No. 6,474,790 (Kaneko). These rejections are respectfully traversed.

In the print cartridge of Cleland et al., as shown in Figure 5, resistors 309 are arranged in a first row 504 and a second row 506. The resistors are evenly spaced apart in each row, but axially offset by one-half of the resistor spacing to provide an alternating arrangement. Ink supply opening 508 is provided between the first row 504 and the second row 506.

As recognized in the Office Action and as discussed in a telephone conversation between the Examiner and the undersigned on December 24, 2008, Cleland et al. does not disclose or suggest that an aspect ratio based on a flow direction of liquid channels of first recording elements is greater than the aspect ratio of second recording elements, with the first and second recording elements corresponding, respectively, to first and second outlets, and

the first outlets being disposed relatively closer to an inlet and the second outlets being disposed relatively further from the inlet, as is recited in independent Claim 1.

Thus, Cleland et al. fails to disclose or suggest important features of the present invention recited in independent Claim 1.

In the ink jet printing head depicted in Figures 5A and 5B of Mochizuki et al., heat generating sections 94 and 96 have different aspect ratios. However, one of each of the heat generating sections 94, 96 is disposed in the same ink flow path. As noted previously and during the telephone conversation, heat generating section 94 is formed closer than heat generating resistor 96 to an ink ejection opening. As discussed below, 1) one of ordinary skill in the art would not look to Mochizuki et al. to modify the recording head of Cleland et al., 2) even if one of ordinary skill in the art used the teachings of Mochizuki et al. in Cleland et al., such would not result in resistors of different aspect ratios corresponding to two adjacent outlets, and 3) nothing in Cleland et al. would suggest forming a resistor of an outlet closer to the ink inlet to be of a greater aspect ratio than that of a resistor of an outlet further from the inlet.

Regarding the first point, Mochizuki et al. is directed to a so-called edge shooter type recording head for discharging ink parallel to the substrate. The recording elements are not located at a position opposite to the discharge port. In Mochizuki et al., the size of the recording head can be minimized by reducing the width of each ink flow path. This is accomplished by providing plural heat generating sections in series in a single flow path. One of ordinary skill in the art would not look to the side shooter type recording head of Mochizuki et al.

al., to modify the recording head of Cleland et al., in which flow passages of adjacent outlets are of differing lengths and the heater resistors are provided opposite to the ejection outlets.

Regarding the second point, even assuming, *arguendo*, that one of ordinary skill in the art would look to Mochizuki et al. to modify the teachings of Cleland et al., such a combination would not result in a heating resistor of one aspect ratio corresponding to one outlet and a heating resistor of a different aspect ratio corresponding to an adjacent outlet. Rather, Mochizuki et al. teaches the use of the same combination of heaters corresponding to each outlet. Therefore, in modifying Cleland et al. with the teachings of Mochizuki et al., at most each outlet in Cleland et al. would have the same combination of heating resistors of different aspect ratios in each passage.

As to the third point, the arrangement of the heat generating sections in Mochizuki et al., with respect to the distance from the ink inlet is opposite to that of the present invention. That is, heat generating section 94 in Mochizuki et al. is further from the ink supply inlet, but has a greater aspect ratio than heat generating section 96, which is closer to the inlet.

Accordingly, even assuming that one of ordinary skill in the art would look to Mochizuki et al. to modify Cleland et al., the resulting combination would fail to remedy the deficiencies of Cleland et al. noted above with respect to independent Claim 1.

The remaining citations have been reviewed, but are not believed to be any more relevant than those discussed above.

Thus, Claim 1 is patentable over the citations of record. Reconsideration and withdrawal of the § 103 rejections are respectfully requested.

For the foregoing reasons, Applicants respectfully submit that the present invention is patentably defined by independent Claim 1. Dependent Claims 2-8 are also allowable, in their own right, for defining features of the present invention in addition to those recited in independent Claim 1. Individual consideration of the dependent claims is requested.

Applicants submit that the present application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowability are requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below-listed address.

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